SANTA CRUZ BIOTECHNO

MRP1 (QRCL-3): sc-18873

BACKGROUND

The two members of the large family of ABC transporters known to confer multidrug resistance in human cancer cells are the MDR1 P-glycoprotein and the multidrug-resistance protein MRP1. MRP1 is an integral membrane protein that contains an MDR-like core, an N-terminal membrane-bound region and a cytoplasmic linker, and it is expressed in various cerebral cells, as well as in lung, testis and peripheral blood. The MRP gene family also includes MRP2, which is alternatively designated cMOAT (for canalicular multispecific organic anion transporter) and MRP3, which are both conjugate export pumps expressed predominantly in hepatocytes. MRP2 localizes exclusively to the apical membrane and is constitutively expressed at a high level in normal liver cells. Conversely, MRP3 localizes to the basolateral membrane where it also mediates the transport of the organic anion S-(2,4-dinitrophenyl-) glutathione toward the basolateral side of the membrane. MRP3 is normally expressed at comparatively lower levels than MRP2 and increases only when secretion across the apical membrane by MRP2 is impaired. MRP6 protein is highly expressed in liver and kidney, whereas MRP4 and MRP5 are detected in various tissues yet at much lower levels of expression.

CHROMOSOMAL LOCATION

Genetic locus: ABCC1 (human) mapping to 16p13.11.

SOURCE

MRP1 (QRCL-3) is a mouse monoclonal antibody raised against membranes prepared from the human small cell lung cancer cell line, H69AR, which highly overexpresses MRP1.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MRP1 (QRCL-3) is available conjugated to either phycoerythrin (sc-18873 PE) or fluorescein (sc-18873 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

MRP1 (QRCL-3) is recommended for detection of MRP1 of human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for MRP1 siRNA (h): sc-35962, MRP1 shRNA Plasmid (h): sc-35962-SH and MRP1 shRNA (h) Lentiviral Particles: sc-35962-V.

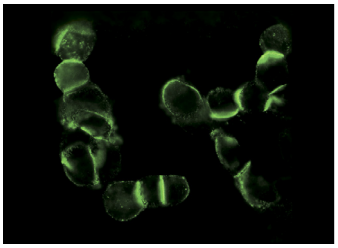
Molecular Weight of MRP1: 190 kDa.

Positive Controls: T98G cell lysate: sc-2294, A549 cell lysate: sc-2413 or HeLa whole cell lysate: sc-2200.

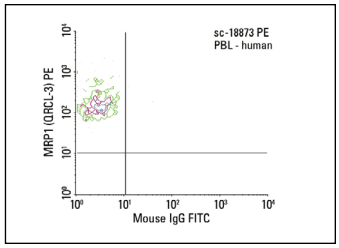
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



MRP1 (QCRL-3): sc-18873. Immunofluorescence staining of methanol-fixed T98G cells showing membrane localization.



MRP1 (QCRL-3) PE: sc-18873 PE. FCM analysis of human peripheral blood leukocytes. Quadrant markers were set based on the isotype control, normal mouse IgG_{2a}: sc-2867.

SELECT PRODUCT CITATIONS

1. Lee, T.C., et al. 2006. Enhanced expression of multidrug resistance-associated protein 2 and reduced expression of aquaglyceroporin 3 in an arsenic-resistant human cell line. J. Biol. Chem. 281: 18401-18407.
2. Morrow, C.S., et al. 2006. Multidrug resistance protein 1 (MRP1, ABCC1) mediates resistance to mitoxantrone via glutathione-dependent drug efflux. Mol. Pharmacol. 69: 1499-1505.
3. Komuta, M., et al. 2008. Clinicopathological study on cholangiolocellular carcinoma suggesting hepatic progenitor cell origin. Hepatology 47: 1544-1556.
4. Vander Borght, S., et al. 2008. Up-regulation of breast cancer resistance protein expression in hepatoblastoma following chemotherapy: a study in patients and *in vitro*. Hepatol. Res. 38: 1112-1121.
5. Vander Borght, S., et al. 2008. Expression of multidrug resistance-associated protein 1 in hepatocellular carcinoma is associated with a more aggressive tumour phenotype and may reflect a progenitor cell origin. Liver Int. 28: 1370-1380.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

See **MRP1 (QCRL-1): sc-18835** for MRP1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.